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REMARKS

Claims 1-20 are pending in the application. Claims 1 and 11 have been amended by the present amendment to overcome the rejections under 35 USC 112, second paragraph. In particular, claims 1 and 11 require the ground structure to include at least one of first ground portions. Claims 2 and 12 depend from claims 1 and 11, respectively, and further recite at least one of second ground portions connected to the die pad. In other words, the "and/or" language has been removed from claims 1 and 11, thereby obviating the rejections under 35 USC 112. The amendments are fully supported by the specification as originally filed.

Applicants' claimed invention is directed to a ground-enhanced semiconductor package and lead frame (see claims 1 and 11). The semiconductor package includes a lead frame having a die pad, a plurality of tie bars connected with and supporting the die pad, a plurality of leads surrounding the die pad, a ground structure, at least one chip mounted on the die pad and electrically connected to the leads and the ground structure, and an encapsulation body for encapsulating the chip and the lead frame. As recited in claims 1 and 11, the ground structure comprises at least one of first ground portions connected to the tie bars but separate from other first ground portions. Claims 2 and 12 recite at least one of second ground portions connected to the die pad but separate from each other and from the first ground portions.

For example, as shown in FIG. 1, the ground structure can include four groups of first ground portions 20 integrally connected to tie bars 12. The first ground portions 20 are not connected with each other, thereby allowing thermal stresses to be released through the first ground portions without causing thermal deformation (see specification at page 7, last line to page 8, line 3). As shown in FIG. 4A, the ground structure can include second ground portions 25, which "are not interconnected and are not connected to the first ground portions 20" (specification at page 9, last paragraph).

Applicants' claimed invention can provide significant advantages. Because the first ground portions are connected to tie bars, the ground portions are not directly attached to a die pad, which simplifies fabrication as compared to conventional structures in which ground

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portions are connected directly to a die paddle. Moreover, thermal deformation can be avoided because the first ground portions are separate from each other, thereby allowing thermal stresses to be released through the first ground portions (see specification at page 9, second full paragraph).

Claims 1-20 were rejected under 35 USC 102(e) as being anticipated by U.S. Patent 6,630,373 to Punzalan et al. (hereinafter "Punzalan"). This rejection is respectfully traversed.

Punzalan does not teach or suggest a semiconductor package or lead frame having ground portions connected to tie bars, where the ground portions are separate from each other.

Punzalan discloses a ground plane located between a lead frame and a die attach paddle over which a semiconductor die is mounted (see, e.g., die attach paddle 52 and ground plane 54 in FIGS. 6, 7a and 7b). In Punzalan, tie bars 60 are used to attach the die attach paddle 52 to the ground plane 54 (see col. 6, lines 2-4).

In the Office Action, "small, metal constructs" 53 surrounding the die attach paddle 52 were cited as corresponding to the Applicants' claimed ground structure.

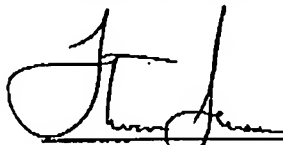
However, the small, metal constructs 53 in Punzalan do not teach or suggest "first ground portions" as recited in claims 1 and 11. In particular, the metal constructs 53 are not connected to tie bars, as required in the Applicants' claimed invention. Instead, the metal constructs 53 are individually connected to the die attach paddle 52 (see, e.g., FIG. 7a). Therefore, Punzalan does not teach or suggest first ground portions connected to tie bars, as required in claims 1 and 11.

For at least the reasons discussed above, the Punzalan reference does not anticipate or otherwise render obvious the Applicants' claimed invention.

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It is believed the application is in condition for immediate allowance, which action is earnestly solicited.

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